



Research article

Antecedents of rapport and its mediating role on relational cohesion in patient-physician interaction

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ABSTRACT

Increasing competition in healthcare services, it is imperative that physicians and family-care practitioners seek ways to attract and retain patients. Building relationships with existing patients is one sure way to continued patronage and increased clientele. The purpose of this paper is to examine antecedents of rapport and its influence on perceived relationships in the context of patient-physician interaction. Study using cross-sectional survey method with structured questionnaire was used for data collection. Structural Equation Modeling was used for analyzing the data collected from 326 patients residing in Karnataka, India. The finding suggests that respect, responsibility and understanding have significant influence on relational cohesion with rapport acting as mediating variable. The results add to the empirical validity of the relationship among rapport, respect & relationship, as it is required to understand studied in Indian context. The finding provides new directions for both healthcare professionals and institutions in their endeavor of building relationships with their customers (Patients) by emphasizing the need for developing 'rapport' as an integral part of service interaction. Future research like longitudinal and experimental studies can provide more conclusive evidence regarding the influence of service behaviour on rapport.

1. Introduction

Establishing a mutual relationship between physicians and patients is widely recognized as crucial for both parties involved. This long-term relationship serves as a vital means to address concerns stemming from the patient's limited ability to assess the quality of their diagnosis and treatment. By doing so, it effectively reduces both perceptual and financial risks since the knowledge acquired through interactions with a specific physician, be it in terms of time, effort, or monetary investment, is not easily transferable to another physician [1].

Moreover, the close bond between a patient and their physician instills a sense of safety and security. This is primarily due to the credibility and trust that physicians develop through the establishment of a strong relationship with their patients [2]. Through accumulating a deep understanding of the patient's physiological, emotional, and social aspects, physicians are better equipped to reduce the required time for diagnosis, provide tailored recommendations, and offer accurate prognoses [3,4].

The continuity of care that stems from establishing a long-term relationship between physicians and patients has been found to

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significantly enhance patient compliance with physician advice [5,6]. When patients have an ongoing relationship with their physician, they are more likely to follow the prescribed treatment plans and adhere to medical recommendations, leading to improved health outcomes. Moreover, research has indicated that repeat patronage of physicians by patients not only contributes to better continuity of care but also results in greater financial returns compared to solely relying on acquiring new patients [7]. Building a base of loyal patients who consistently return for medical care can provide financial stability for physicians and medical practices.

Additionally, patients who perceive a stronger relationship with their physician are inclined to utilize preventive services more consistently [8]. When patients feel a sense of trust, comfort, and rapport with their physicians, they are more likely to prioritize preventive measures and engage in proactive healthcare practices. This, in turn, can lead to early detection of health issues, better management of chronic conditions, and overall improved well-being. Therefore, both physicians and patients stand to benefit from cultivating a long-term relationship. For physicians, it offers financial advantages, enhanced continuity of care, and increased patient compliance. For patients, it provides a sense of security, trust, and better access to preventive services, ultimately contributing to better health outcomes and overall satisfaction with their healthcare experience.

Previous research on patient-physician interactions has approached the concept of "relationship" based on the different ways physicians interact with their patients. Some perspectives view the interaction as paternalistic, while others consider it therapeutic. However, it is widely recognized that the interactive roles played by both physicians and patients are crucial for improving diagnosis, treatment, and outcomes [9]. Another study explores the role of communication style in shaping repeat patronage [10]. Although research on patient satisfaction has examined repeat patronage [11], there is still a need to understand the emotional connection that develops during the interaction and its influence on the mutual relationship from the patient's perspective.

Extensive research conducted in the field of service marketing, as well as within the context of psychotherapy, has shed light on the crucial role of "rapport" in establishing strong customer loyalty and client satisfaction [12,13]. Rapport refers to the harmonious connection, trust, and understanding that develops between individuals during interactions. Building upon these findings, the current study aims to delve into the antecedents of rapport and explore its influence on the perceived relationship from the patient's perspective. By gaining a deeper understanding of the factors that contribute to the establishment of rapport and its impact on the patient-physician relationship, we can make valuable strides in enhancing the quality of healthcare delivery and improving patient experiences.

By examining the dynamics of rapport, including elements such as effective communication, empathy, shared decision-making, and mutual respect, this study seeks to uncover the key determinants that foster rapport between physicians and patients. Understanding these antecedents will not only provide valuable insights into the factors that contribute to the development of a strong patient-physician relationship but also offer guidance for healthcare professionals in cultivating and maintaining rapport with their patients. Furthermore, the study aims to investigate how rapport influences the perceived relationship from the patient's standpoint. By exploring the patient's subjective experiences and perceptions regarding rapport, trust, satisfaction, and overall relationship quality, we can gain a comprehensive understanding of the impact of rapport on the patient's healthcare journey.

Ultimately, the findings of this study will contribute to the growing body of knowledge on patient-physician interactions, rapport-building strategies, and the significance of the patient's perspective in shaping the healthcare experience. This research holds the potential to inform healthcare practices, communication training for healthcare professionals, and the design of patient-centered care models, thereby fostering more positive and effective patient-physician relationships.

2. Theoretical background

The field of services marketing has dedicated significant attention to the examination of customer relationships, surpassing other streams of marketing research in terms of depth and breadth [14]. This emphasis on customer relationships stems from the unique characteristics that define services [15]. These characteristics are crucial in understanding the dynamics of customer relationships within the service industry. One key characteristic is the requirement for ongoing membership, as evident in services such as insurance or mobile phone subscriptions [16]. Unlike one-time purchases of goods, these services necessitate a continuous relationship between the customer and the service provider. This ongoing membership creates a foundation for relationship development and maintenance, enabling providers to better understand and cater to the individual needs of customers [17].

Furthermore, even in cases where membership is not obligatory, customers tend to seek relationships with service providers to minimize the perceived risks associated with evaluating services [15]. Services possess inherent intangibility, making it challenging for customers to assess their quality before consumption. In such cases, the tangible part of the service experience becomes the service provider itself. Customers often equate the service provider with the service itself, making the establishment of a strong customer-provider relationship all the more important [18,19]. Additionally, services possess credence properties, further emphasizing the need for customer relationships [15]. Credence properties refer to the characteristics of a service that are difficult for customers to evaluate, even after consumption. Due to the intangible nature of services, customers have limited information available to them when making purchase decisions. As a result, they heavily rely on their prior experiences and the credibility of service providers to ensure that the service will meet their expectations [19].

In the context of services, customers are more inclined to build relationships with service providers compared to the organizations they represent or the goods they offer [20]. The personal nature of service encounters, the reliance on provider expertise, and the need for ongoing interactions create a favorable environment for the development of strong customer-provider relationships. These relationships foster trust, loyalty, and customer satisfaction, ultimately leading to positive outcomes for both the customer and the service provider [21,22]. Overall, the field of services marketing recognizes the significance of customer relationships due to the unique characteristics of services. The ongoing membership, intangibility, credence properties, and the customers' propensity to build

relationships with service providers highlight the importance of cultivating and nurturing customer relationships within the service industry.

Additionally, the intangibility of services poses a challenge for customers when it comes to evaluating them before making a purchase decision. Due to the intangible nature of services, customers often have limited means to assess their quality or value [15]. As a result, customers tend to rely heavily on the tangible aspect of the service—the service provider—to form judgments about the overall service experience. In the eyes of customers, the service provider becomes the tangible representation of the service itself [20]. Consequently, customers’ perceptions of relationship quality with the service provider often correspond to their assessment of service quality. This is because customers find it difficult to evaluate services directly and instead rely on their prior experiences and the credibility of the service provider to determine if the service will meet their expectations [15]. The relationship between the customer and the service provider becomes a vital factor in shaping the customer’s perception of the service quality and their overall satisfaction [23].

Furthermore, in many service interactions, customers and service providers need to engage in ongoing interactions, particularly in professional services such as healthcare [20]. These interactions involve a high degree of personal engagement and communication between the customer and the service provider. The establishment of rapport between the customer and the service provider becomes crucial in fostering a positive service experience. If rapport is not established or the relationship between the customer and the service provider becomes strained, it can significantly impact both the quality of the interaction and the outcome of the service [12]. A lack of rapport can lead to communication barriers, misunderstandings, and a diminished sense of trust and confidence in the service provider. As a result, the overall service experience may be compromised, and the desired outcomes may not be achieved.

To ensure a positive service encounter and enhance customer satisfaction, service providers need to focus on building rapport with their customers. By establishing a strong rapport, service providers can foster a sense of trust, open communication, and mutual understanding, leading to improved service outcomes and customer experiences [12]. The intangibility of services creates a challenge for customers in evaluating service quality. The service provider, being the tangible representation of the service, plays a critical role in customers’ assessment of service quality. Customers’ perceptions of relationship quality with the service provider align with their evaluation of service quality due to the inherent difficulties in assessing services directly. Establishing rapport between the customer and the service provider is crucial for ensuring a positive service experience and achieving desired outcomes.

To further explore the factors that positively influence outcomes beneficial to service firms, various relational constructs have been examined in research [24]. These constructs encompass elements such as familiarity, care, friendship, rapport, and trust. They play a significant role in shaping the dynamics of customer-provider relationships. In a study conducted by Ref. [25], relationship closeness, quality, and strength were identified as important factors in understanding customer-provider relationships. The term "relationship strength" was proposed to best capture the degree of relationship between customers and service providers [26,27]. This term holds particular relevance in contexts where services entail a high level of interpersonal interaction, providing customers with ongoing opportunities to interact with the same service personnel, as often seen in medical interactions [28].

However [29], present a different perspective by suggesting that "Relational Cohesion" is better suited for measuring relationships within the context of patient-physician interactions. Relational cohesion refers to the magnitude of cohesiveness among individuals involved in social exchange [30,31,32]. This concept delves into the interconnectedness and sense of unity within the patient-physician relationship. It emphasizes the importance of a cohesive bond between the patient and the physician, which can lead to positive outcomes. The choice of utilizing relational cohesion as a measure of the relationship in this study stems from the unique nature of the healthcare context. Trust, a key component of relationship strength [33], is established even before the interaction occurs due to the inherent knowledge disadvantage faced by patients [34,35]. In professional services like healthcare, customers have limited options but to rely on the service provider’s technical competency and expertise. This reliance is built upon the rigorous tests and examinations that service providers undergo to demonstrate their mastery of the discipline before being granted the ability to provide services.

Therefore, this study focuses on understanding the antecedents of rapport and its influence on relational cohesion within the patient-physician interaction. By examining the development of rapport and its impact on the patient’s perception of relational cohesion, we can gain valuable insights into enhancing the quality of healthcare delivery and improving patient experiences. Understanding the factors that contribute to relational cohesion can guide healthcare providers in fostering stronger patient-physician

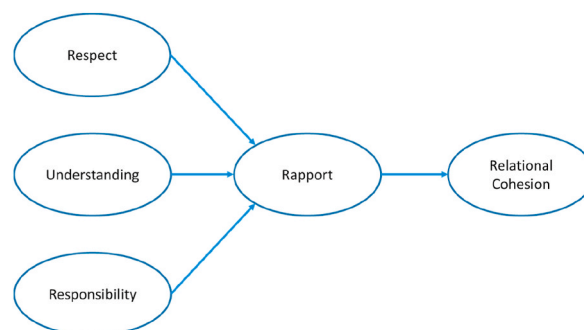


Fig. 1. Conceptual model of rapport and relational cohesion in patient-physician interactions.

relationships, leading to improved healthcare outcomes and increased patient satisfaction.

3. Conceptual model and hypothesis

Building upon the insights gained from the literature review in the field of services, this study proposes a conceptual model that incorporates "Relational Cohesion" as the key measure of the relationship resulting from the rapport developed during patient-physician interactions (see Fig. 1). The model suggests that patients' perception of the strength of their relationship with the physician, represented by "Relational Cohesion," is influenced by the rapport they experience during their interactions with the physician. Studies indicate that the concept of relationship extends beyond mere occasional contact and encompasses a deeper understanding of the dynamic nature of social connections [36]. The complexity of relationships in the social context makes them challenging to comprehend and capture accurately. In the context of patient-physician interactions, the relationship between the two parties involves intricate dynamics influenced by multiple factors (see Fig. 2).

The proposed model recognizes the pivotal role of rapport in shaping the perceived relational cohesion between patients and physicians. Rapport represents the establishment of a harmonious and trusting connection characterized by effective communication, empathy, and understanding [37]. It serves as a catalyst for building a solid foundation for the patient-physician relationship. By exploring the interplay between rapport and relational cohesion, this study aims to deepen our understanding of the mechanisms underlying patient-physician interactions. It seeks to shed light on how rapport influences patients' perception of the strength of their relationship with their physicians. By unraveling these dynamics, healthcare providers can gain valuable insights into fostering and maintaining strong patient-physician relationships, ultimately leading to enhanced healthcare experiences and outcomes.

It is important to note that capturing the essence of relationships in the social context is a complex task [38,39], and this study aims to contribute to this ongoing exploration. By investigating the interrelationship between rapport and relational cohesion [40], we strive to advance our understanding of the multifaceted nature of patient-physician interactions and provide a foundation for further research and practical implications in healthcare settings. However, it is important to note that partners in a relationship have a subjective sense of knowing when a "relationship" exists [41]. This knowing refers to patients and physicians acknowledging each other with an emotional tone and experiencing a positive connection that is distinct and closer than their relationships with others [42]. Recognizing the social nature of patient-physician interactions, the measurement of relationship extent requires a concept that assesses the cohesiveness between the actors involved [43]. In this study, the concept of "Relational Cohesion" is adopted to capture the consequence of the rapport experienced during medical interactions.

Operationalized as the degree to which patients perceive their relationship with the physician as distinct and unifying [43], relational cohesion serves as a means to quantitatively evaluate the strength and unity of the patient-physician relationship. It provides a framework for assessing the extent to which the bond between the patient and physician goes beyond a mere transactional encounter, indicating a higher level of emotional connection and cohesion [44,45]. By incorporating the concept of relational cohesion into the proposed model, this study aims to explore the influence of rapport on patients' perception of the distinctiveness and unity of their relationship with their physicians. Understanding the role of relational cohesion as an outcome of rapport within the patient-physician interaction context contributes to a deeper understanding of the dynamics and implications of these relationships in healthcare settings [46].

Measuring relational cohesion allows researchers to capture the subjective experiences of patients and their perception of the strength and uniqueness of their relationship with their physicians [47]. It acknowledges the emotional and psychological dimensions of patient-physician interactions, highlighting the importance of rapport in shaping the overall quality and outcomes of healthcare experiences [48].

Rapport, a concept that has been extensively studied and defined by various researchers, encompasses different aspects depending on the perspective taken. Some researchers, such as [37], view rapport as the characteristics exhibited during an interaction. These characteristics may include verbal and non-verbal behaviors, mutual understanding, and responsiveness, among others. On the other hand [49], define rapport as the quality of the relationship between individuals. In this context, rapport refers to the overall connection, trust, and positive feelings that exist between two or more people. In contrast [50], distinguish between rapport and relationship, considering them as separate concepts. They perceive rapport as a process of building a relationship, particularly in the

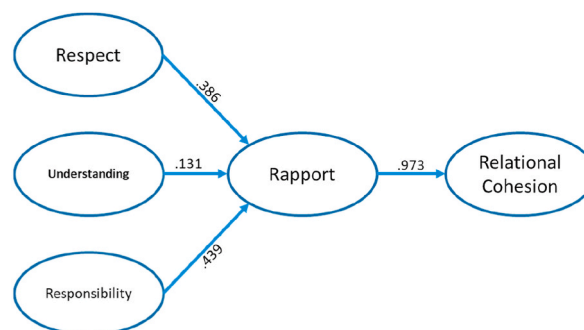


Fig. 2. Structural model.

initial stages of an interaction. Rapport, according to their perspective, involves the establishment of a connection, facilitating communication and fostering a sense of mutual understanding. Relationship, on the other hand, is viewed as an outcome that becomes evident in subsequent interactions, indicating the level of closeness and connection that has been established over time [51].

Expanding further on the notion of rapport [12], examine its significance in the context of services marketing, particularly the interaction between service providers and customers. According to their perspective, rapport is a phenomenon that emerges during these interactions. They identify two dimensions of rapport: enjoyable interaction and personal connections [52]. Enjoyable interaction refers to the positive and engaging experience that customers have with service providers, while personal connections denote the establishment of a deeper, more personal relationship between the parties involved [12,53].

Furthermore [54], conducted research in the context of dental clinics in Malaysia, investigating the impact of rapport on relationship quality. Their findings reveal a positive influence of rapport on the overall quality of the relationship between dental service providers and patients [12]. This suggests that when rapport is effectively developed and maintained, it contributes to fostering a strong and positive bond between individuals, thereby enhancing the quality of their relationship [55,56]. Further supporting the argument [57], puts forth the idea that building rapport serves as a precursor to establishing a relationship. According to Macintosh, rapport is the foundation upon which relational cohesion is built. Relational cohesion refers to the degree to which the manifestation of rapport emerges and becomes evident within the interaction. In light of this, the present study hypothesizes that the experience of rapport during interactions positively influences patients' perception of their relationship with the physician. In this particular study, the concept of relationship is conceptualized as relational cohesion, emphasizing the importance of rapport in shaping the overall quality of the patient-physician relationship.

In the realm of personal relationships, researchers have explored the interplay between respect and relationships [58,59]. have delved into the subject, suggesting that respect plays a crucial role in the dynamics of relationships. It is proposed that when one person demonstrates respect towards another, it deepens feelings of security and fosters mutual trust [60,61]. supports this notion, asserting that mutual trust among partners cyclically influences trust, commitment, and pro-relationship behaviors [62]. In other words, the presence of respect within a relationship acts as a catalyst, strengthening the bond and promoting positive relationship dynamics. By integrating these perspectives, it becomes evident that rapport, as a precursor to relationship building, holds substantial influence over the quality and dynamics of interpersonal connections. The experience of rapport during interactions positively shapes patients' perceptions of their relationship with their physician, while elements such as respect and trust contribute to the overall cohesion and strength of relationships. These interconnected factors highlight the intricate nature of human relationships and emphasize the significance of rapport as a fundamental element in their formation and development.

The significance of respect in close relationships is acknowledged by Refs. [63,60], who propose that respect is an attitude directed towards a partner in a close relationship who is deemed trustworthy, considerate, and accepting [64]. This notion underscores the importance of respect in fostering positive and healthy interpersonal connections. Building upon these findings [54], identify attention, understanding, and responsibility as specific dimensions of respect that have a direct influence on the quality of relationships.

In line with this understanding, the present study recognizes the distinct role of respect in interactions and treats it as a separate construct that positively impacts rapport. The conceptualization of respect in this study draws inspiration from the work of [54], who have extensively explored the dimensions and effects of respect in the context of relationships. By incorporating respect as an independent element alongside responsibility and understanding, the study aims to capture the multifaceted nature of rapport and its various contributing factors. Therefore, respect in interaction is considered as an additional construct that influences rapport, working in conjunction with responsibility and understanding. This approach allows for a comprehensive examination of the factors that contribute to the development of rapport in interpersonal interactions. By acknowledging respect as a distinct element, the study enriches our understanding of the complex dynamics involved in rapport formation and emphasizes the significance of respect as a fundamental aspect of positive relationship experiences.

Given the foregoing, specific hypothesis tested are.

- H1. Patient perception of responsibility during patient physician interaction positively influence rapport
- H2. Patient perception of respect during patient physician interaction positively influence rapport
- H3. Patient perception of understanding during patient physician interaction positively influence rapport
- H4. Patient perception of rapport positively influence relational cohesion

4. Methodology

The research was conducted in three phases, first items to measure responsibility, understanding, respect, rapport and relational cohesion were identified from extant literature was used for discussion with 15 patients with an objective of checking relevance and increasing comprehensibility of research instrument which was deemed important for the measurement in Indian context. Second, the structured questionnaire thus prepared in the first phase was used for the conduction of pilot test. Over here, responses were collected through face-to-face personal interview from 65 patients as respondents. The questionnaire used for the pilot test contained 15 items that measured attributes of responsibility, respect and understanding, 9 items for rapport and 7 bi-polar items to measure relational cohesion. Responses obtained from the pilot study were put through factor analytic procedure with extraction method of principal component and varimax rotation in order to purify the research instrument. Questionnaire items with loadings lesser than 0.70 were deleted from questionnaire, which was used for the main study. While, Factor analytic procedure also helped to check convergent and divergent validity, reliability was checked by calculating Cronbach's alpha before embarking on the main study. Third, after the pilot

test, survey method was used to collect data for which in home personal interview was conducted using structured instrument. While collecting data care was taken to obtain responses only from patients who have been visiting the same physician for at least 6 months. This was necessary because, most medical interaction happens in social context and semblance of ‘relationship’ are always embedded within it, and objective of the study was to examine the influence of rapport on degree of ‘relational cohesion’ and not prevalence of relationship. Further, since impact of rapport on relational cohesion was tested, variance in physicians was considered essential. Therefore, responses were collected from patients consulting different physicians and data was not collected from a particular hospital/s. considering the difficulty in knowing beforehand the location of patients who were visiting the same physician for more than six months, for the purpose of sampling, snowball technique was adapted to collect data from 326 respondents in Karnataka state, India. Responses were mainly collected from 172 males and 154 females. Reliability and validity of the constructs were assessed by calculating Cronbach’s α & composite reliability alongside [Table 5](#) average variance extracted and is presented in [Table 3](#).

5. Analysis and findings

For the purpose of testing the model, two-step procedure suggested by Ref. [65] was used. First, confirmatory factor analysis was conducted to ascertain factorial validity before subjecting the model for the procedure of Structural Equation Modelling (SEM). While, the structural model provided evidence for hypothesized relationships among understanding, responsibility, respect, rapport and relational cohesion through data, Separate measurement models tested the factorial validity and described how observed indicators measured latent variables. The measurement model provided further evidence and more rigorous evaluation of uni-dimensionality and the validity of constructs used in the study. Examination of estimates and path coefficients reveals that the models for all exogenous and endogenous were, valid and significant. The structural model revealed that the models were valid and significant and the overall fit statistics showed a good fit. The model fit statistics reliability measures are shown in [Table 4](#) to [Table 3](#).

In SEM terms, reliability is the variance not accounted by measurement error. This is calculated squared multiple correlation coefficient, and lie between 0 and 1 [66]. Hence, reliability was tested by measuring composite reliability and average variance extracted. Composite Reliability (CR) is a summated scale that measures internal consistency [67] and total variance explained by a construct is estimated by the Average Variance Extracted (AVE) [67]. Measurement of composite reliability showed values more than 0.70 and AVE was more than 0.50 which is the threshold level suggested [68] and indicated acceptable validity & reliability of construct and respective items. Factor loading, of respective constructs alongside CR and AVE are presented in [Tables 1–3](#).

Path coefficients were considered for assessing causal relationships and results indicates exogenous variables ‘Responsibility’, ‘Respect’, and ‘Understanding’ significantly influence ‘Rapport’ with respective path coefficients of 0.439, 0.386 & 0.131. This suggests that patients who perceive physician to be responsible, respectful and understanding perceive the interaction to be filled with harmonious relationship understands each other’s feelings or ideas and expressive, in other words rapport. The hypothesized relationship between ‘rapport’ on ‘relational cohesion’ was significantly supported (0.973), this means, customers who perceive high rapport in service interactions tend to perceive stronger relational cohesiveness with physicians. This clearly suggests that patients who experience high rapport during service interaction also perceive their relation with the physician to be a distinct, unifying social object, in other words relational cohesion.

6. Discussion and conclusions

Physician behaviors during interactions are important because they help to connect with the patient in initial interactions. The study extends earlier research by providing empirical evidence on how elements of interaction influence rapport. This rapport building further engender development of relationship. The consequent outcomes that ensue from relationship cohesion such as repeat purchase, positive word-of-mouth, loyalty and the like are well established. The study offers valuable insights into how physicians, contribute to fostering rapport and nurturing the patient-physician relationship. The findings underscore the significant role that physicians play in cultivating a strong sense of rapport between themselves and their patients. The study validated, that when physicians establish rapport, patients tend to be more attentive to the behavioral cues exhibited by doctors, including their level of respectfulness and their understanding of patients’ issues. Relationship in this study was operationalized as ‘Relational Cohesion’ was

Table 1
Standardized Regression Weights: (Group number 1 - Default model).

Sl/No	Items	Variables	Estimate
1	My physician takes ownership of the service being provided.	Responsibility	0.711
2	My physician wants to listens me out completely with respect	Responsibility	0.598
3	My physician takes responsibility during service interaction	Responsibility	0.596
4	My physician regards his/her customers as important	Responsibility	0.689
5	My physician responds to me as part of his/her responsibilities	Responsibility	0.677
6	My physician treat customers well regardless of their background	Attention	0.650
7	My physician interacts me with respect	Attention	0.725
8	My physician accepts me as I am	Attention	0.652
9	The physician acknowledges my presence without ignoring me	Attention	0.671
10	My physician understands my ‘need and requirements’ fully	Understanding	0.944
11	My physician is interested to relate his/her experience to the customers	Understanding	0.949

Table 2
Standardized Regression Weights: (Group number 1 - Default model).

Sl/No	Items	Variables	Estimate
1	I feel 'liked' by my physician	Rapport	0.754
2	My physician interacts with me like a friend	Rapport	0.709
3	I am comfortable in interacting with my physician	Rapport	0.662
4	My physician Connects well with me	Rapport	0.744
5	My physician relates to me well	Rapport	0.688
6	My physician creates a feeling of "warmth" in our relationship	Rapport	0.684
7	Distant - Close	Relational Cohesion	0.629
8	Conflictual - Cooperative	Relational Cohesion	0.753
9	Fragmenting - Integrating	Relational Cohesion	0.712
10	Divisive - Cohesive	Relational Cohesion	0.735
11	Diverging - Converging	Relational Cohesion	0.778

Table 3
Cronbach Alpha, Composite reliability and Average Variance Extracted.

Sl/No	Variable Name	Cronbach Alpha	Composite reliability	Average Variance Extracted
1	Responsibility	0.789	0.969	0.913
2	Respect	0.788	0.968	0.912
3	Understanding	0.945	0.983	0.966
4	Rapport	0.862	0.977	0.928
5	Relational Cohesion	0.844	0.976	0.938

Having, verified the validity and reliability of the variables, data was subjected to structural equation modeling and the overall fit indices for the SEM revealed a chi-square of 302.790 with 200 df (p.000). The absolute fit indices were standardized RMR = 0.027(<0.05), RMSEA = 0.040 (<0.10), GFI 0.924 (>0.90) and AGFI = 0.904 (<0.90). The comparative fit indices were NFI = 0.919 (>0.90) and CFI = 0.971 (>0.90). Overall, the fit statistics were nearer to the acceptable criteria except for GFI and AGFI. However, and the model was considered as nearly fit and the model fit statistics and path coefficients are presented in tables 4 and 5 respectively and the final model represented in Fig. 1.

Table 4
Absolute model fit.

Absolute Fit	Fit Statistics
Chi-square	302.790
Root Mean Square Residual (RMR)	0.027
Root Mean Square Error of Approximation (RMSEA) 0.043	0.040
Goodness of Fit Index (GFI)	0.924
Adjusted Goodness of Fit Index(AGFI)	0.904
Comparative Fit	
Normed Fit Index (NFI)	0.919
Comparative Fit Index (CFI)	0.971

Table 5
Standardized Regression Weights of structural model.

			Estimate
Rapport	<—	Responsibility	0.439
Rapport	<—	Respect	0.386
Rapport	<—	Understand	0.131
Relational Cohesion	<—	Rapport	0.973

found to be strongly influenced by the rapport developed during patient-physician interaction. Moreover, the rapport between patients and physicians serves as a mediating factor for the impact of respectfulness, understanding, and responsibility on relational cohesiveness. This suggests that when physicians demonstrate respectfulness and responsibility, it contributes to stronger cohesiveness by fostering a more robust patient-physician rapport. Therefore, the result clearly indicates that, responsible behavior and respect seemed to explain rapport more strongly than understanding.

This study provides directions for both physicians. For managers of hospitals, the study provides guidelines for recruitment and training of service providers. For physician entrepreneurs not attached to a particular hospital, the study throws light on the importance of behavioral dimensions in medical consultation. This research suggests that developing rapport is critical for development of relationship which can be done by being responsible, respectful and understanding. Managers' may seek to select physicians who are generally responsible, respectful and understanding in their conduct with fellow human beings. Managers of healthcare

institutions will be benefitted by developing training modules to help physicians to imbibe characteristics and attitude that reflect responsibility, understanding and respectfulness. Further, incorporation of these qualities performance measurement rather than only that of finance and productivity will reinforce the importance on dimensions that results in relationship development will indirectly improve revenues of the organization.

Limitations and future directions

This study has several limitations. Data was collected from only one form of service (medical consultation) and to understand the model better, attributes examined in this work needs to be tested under different service situations (e.g., automobile, financial and retail). In addition, the role of rapport in business-to-business buyer-seller dyad may provide further insight on the phenomena. Also, physician or service worker perception need to be measured since relationships are the result of dyadic interactions and service provider perspectives is also required to be understood. Finally, cross-sectional data is methodologically limited in establishing causality, longitudinal and experimental studies would provide more conclusive support to explain and understand how service behavior influence rapport and therefore, cross validation and replication in different context and population is recommended.

CRedit authorship contribution statement

Yuvaraj Nath: Writing – review & editing, Writing – original draft, Validation, Methodology, Formal analysis, Conceptualization. **Praveen Kumar:** Writing – review & editing, Validation, Supervision, Methodology, Conceptualization. **M.P. Pradeep:** Writing – review & editing, Software, Investigation, Data curation.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

ANNEXURE.

RESPECT	The doctor acknowledges my presence without ignoring me My doctor accepts me as I am My doctor interacts me with respect
RAPPORT	My doctor treat customers well regardless of their background My doctor creates a feeling of “warmth” in our relationship My doctor relates to me well My doctor Connects well with me I am comfortable in interacting with my doctor My doctor interacts with me like a friend I feel ‘liked’ by my doctor
RESPONSIBILITY	My doctor responds to me as part of his/her responsibilities My doctor regards his/her customers as important My doctor takes responsibility during service interaction My doctor wants to listens me out completely with respect My doctor takes ownership of the service being provided.
UNDERSTAND	My doctor is interested to relate his/her experience to the customers My doctor understands my ‘need and requirements’ fully
Relational Cohesion	Distant - Close Conflictual - Cooperative Fragmenting - Integrating Divisive - Cohesive Diverging - Converging

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